

# PHILIPS

## Xitanium

### LED driver



## Datasheet

### Xitanium LED drivers - Wireless FlexTune

#### Xi 45W 0.3-1.2A 48V MC FlexTune 230V

9290 028 27080

#### Enabling simple, cost effective wireless lighting system

Xitanium wireless LED drivers are designed to operate LED solutions for general lighting applications. They enable simple, cost effective wireless lighting system for energy saving and comfort. Advanced design of the wireless drivers helps to build a simple, scalable and standardized connected lighting with different functionalities from simple wireless dimming to cloud based operations and integration with gateways.

Wireless drivers can be configured via smart devices with MasterConnect app as standalone or in a mesh network. With Xitanium LED drivers, flexibility in luminaire design is assured thanks to the Adjustable Output Current (AOC). Application-oriented operating windows offer stable lumen output and light quality levels that specifiers and architects demand. The adjustable output current also enables operation of various LED PCB solutions from different manufacturers.

The Xitanium FlexTune wireless drivers make it possible to create excellent Tunable White systems without compromising on quality of light. The unique FlexTune dimming feature ensures flicker-free dimming performance down to 1% over the full CCT range.

#### Benefits

- Enabling simple, scalable and standardized connected lighting system
- High reliability underpinned by 5-year warranty
- Wide range of use cases: From standalone to cloud based/gateway operations
- Excellent dimming and colour tuning quality
- Flicker-free dimming down to 1% over the full CCT range

#### Features

- Compatible with Zigbee wireless protocols
- Operating windows - With SimpleSet feature, output current can be adjusted via the Philips MultiOne configurator
- Wide operating window: With extended operating window, availability of a wide output current from 0.3A to 1.2A that also helps complexity management
- Wide range of power ratings
- Unique FlexTune dimming technology

#### Application

- Retail
- Hospitality
- Office

## Electrical input data

Specification item	Value	Unit	Condition
Rated input voltage range	220...240	V <sub>ac</sub>	Performance range
Rated input voltage	230	V <sub>ac</sub>	
Rated input frequency range	50...60	Hz	Performance range
Rated input current	0.26	A	@ full output power @ rated input voltage
Rated input power	51.5	W	@ full output power @ rated input voltage
Power factor	0.9C		@ rated output power @ rated input voltage
Total harmonic distortion	20	%	@ rated output power @ rated input voltage
Efficiency	≥ 89	%	@ full output power @ rated input voltage
Rated input voltage DC range	186...250	V <sub>dc</sub>	Performance range
Rated input current DC range	0.28...0.16	A <sub>dc</sub>	Performance range
Input voltage AC range	198...264	V <sub>ac</sub>	Operational range
Input frequency AC range	47.5...63	Hz	Operational range
Input voltage DC range	168...275	V <sub>dc</sub>	Operational range
Standby Power	0.50	W	Max standby power
Isolation input to output	SELV		

## Electrical output data

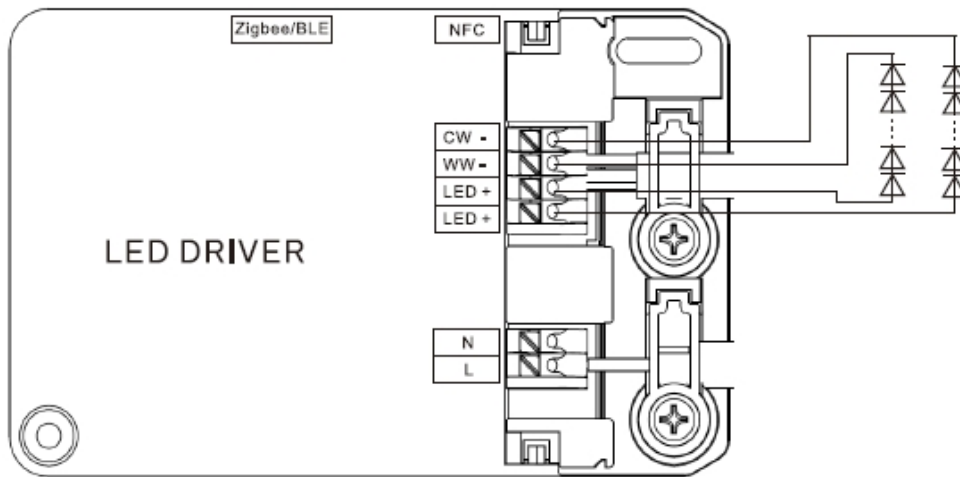
Specification item	Value	Unit	Condition
Regulation method	Constant Current		
Output voltage	24...48	V <sub>dc</sub>	Performance range
Output voltage max.	60	V	Maximum output voltage (rms)
Output current	0.3...1.2	A	
Output current min programmable	300	mA	
Output current min dimming	7	mA	
Output current tolerance	± 5	%	Performance range
Output current ripple LF	≤ 4	%	Ripple = peak / average, < 3kHz
Output current ripple HF	≤ 15	%	
Output P <sub>st</sub> <sup>LM</sup>	≤ 0.5		
Output SVM	≤ 0.5		
Output power	10...45	W	

## Electrical data controls input

Specification item	Value	Unit	Condition
Control method			Wireless protocol = ZigBee
Dimming range	1...100	%	Dimming via MasterConnect app, operational range / wireless switches

## Wiring and Connections

Specification item	Value	Unit	Type
Input wire cross-section	0.75...1.5 / 18...16	mm <sup>2</sup> / AWG	Type250 (Independent), solid / stranded wire
Input wire strip length	8...9	mm	
Output wire cross-section	0.75...1.5 / 18...16	mm <sup>2</sup> / AWG	Type250 (Independent), solid / stranded wire
Output wire strip length	8...9	mm	
Maximum cable length	0.6	m	Total length of wiring including LED module, one way

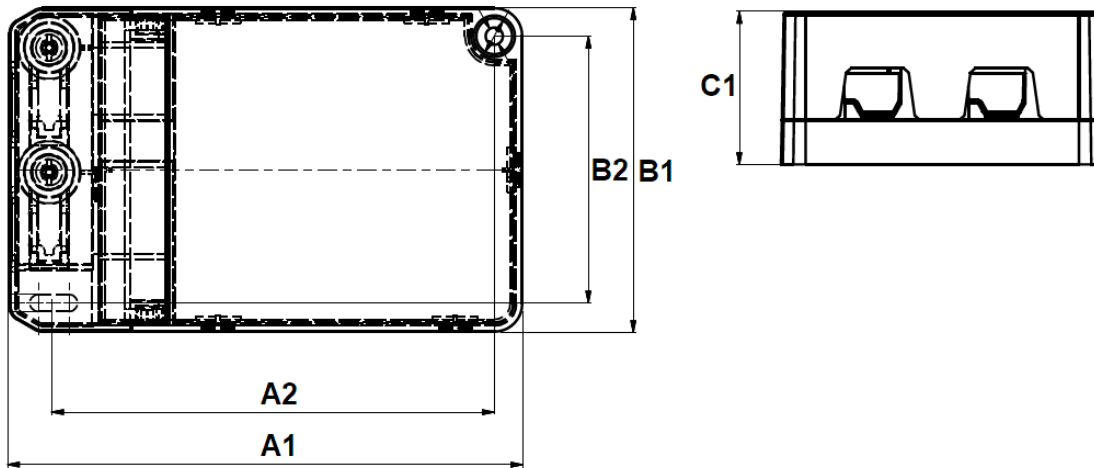


## Insulation

Insulation per IEC61347-1	Input	Output
Input		SELV
Output	SELV	

## Dimensions and weight

Specification item	Value	Unit	Tolerance (mm)
Length (A1)	108	mm	
Mounting hole distance (A2)	92.9	mm	
Width (B1)	68	mm	
Width (B2)	56.1	mm	
Height (C1)	32	mm	
Mounting hole diameter (D1)	3.6	mm	
Weight	270	gram	
Housing color	White		



## Logistical data

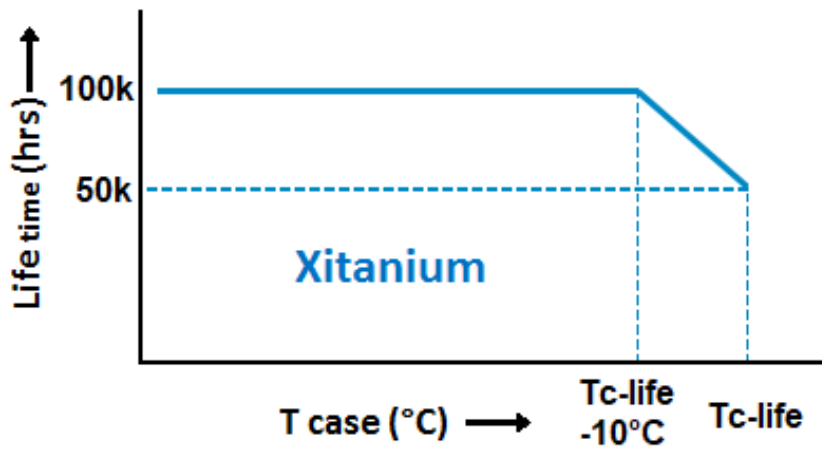
Specification item	Value
Product name	Xi 45W 0.3-1.2A 48V MC FlexTune 230V
Logistic code 12NC	9290 028 27080
Pieces per box	40

## Operational temperatures and humidity

Specification item	Value	Unit	Condition
Ambient temperature	-25...+50	°C	Higher ambient temperature allowed as long as T <sub>case-max</sub> is not exceeded
T <sub>case-max</sub>	85	°C	Maximum temperature measured at T <sub>case-point</sub>
T <sub>case-life</sub>	75	°C	Measured at T <sub>case-point</sub>
Maximum housing temperature	110	°C	In case of a failure, inherent by design
Relative humidity	10...90	%	Non-condensing

## Lifetime

Specification item	Value	Unit	Condition
Driver lifetime	50,000	hours	Measured temperature at Tcase-point is Tcase-life. Maximum failures = 10%



## Storage temperature and humidity

Specification item	Value	Unit	Condition
Ambient temperature	-40...+85	°C	
Relative humidity	5...95	%	Non-condensing

## Programmable features

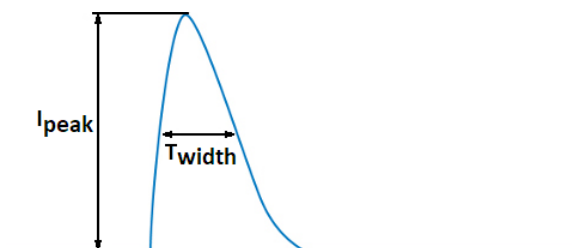
Specification item	Available	Default setting	Condition
Constant Light Output (CLO)	Yes	OFF	
Adjustable Light Output (ALO)	Yes	OFF	
Adjustable Light Output (ALO) min level	Yes		
Touch & Dim (TD)	No		
Min dim level	Yes	1 %	
DC emergency (DCemDim)	Yes	ON	Current output decreased to 15% (EOFx)
Dimming support at DC operating	Yes	OFF	
Corridor mode	No		
OEM Write Protection (OWP)	Yes	OFF	
Luminaire Info	Yes		
Tx Power	Yes	8 dBm	Set the Tx power (strength of the wireless signal)
FlexTune	Yes	1050 mA	

## Features

Specification item	Value	Condition
Open load protection	Yes	Automatic recovering
Short circuit protection	Yes	Automatic recovering
Over power protection	Yes	Automatic recovering
Hot wiring	No	
Suitable for fixtures with protection class	I and II	per IEC60598
Energy metering	Yes	Accuracy is 4%
Diagnostics	Yes	Diagnostics data related to mainsvoltage is inaccurate when output power is less than 50%.

## Inrush current

Specification item	Value	Unit	Condition
Inrush current $I_{peak}$	5.6	A	Input voltage 230V
Inrush current $T_{width}$	56	$\mu$ s	Input voltage 230V, measured at 50% $I_{peak}$
Drivers / MCB 16A type B	$\leq 24$	pcs	Indicative value



MCB	Rating	Relative number of LED drivers
B	4A	25%
B	6A	40%
B	10A	63%
B	13A	81%
B	16A	100% (stated in datasheet)
B	20A	125%
B	25A	156%
B	32A	200%
B	40A	250%
C	4A	42%
C	6A	63%
C	10A	104%
C	13A	135%
C	16A	170%
C	20A	208%
C	25A	260%
C	32A	340%
C	40A	415%

## Driver touch current / protective conductor current

Specification item	Value	Unit	Condition
Typical Touch Current (ins. Class II)	0.7	mA peak	Acc. IEC61347-1. LED module contribution not included

## Surge immunity

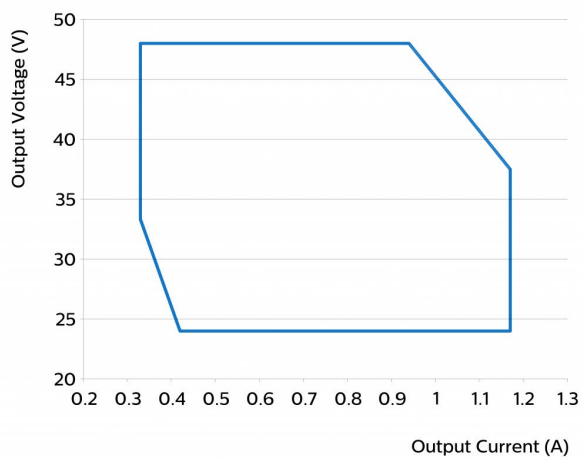
Specification item	Value	Unit	Condition
Mains surge immunity (diff. mode)	1	kV	Acc. IEC61000-4-5. 2 Ohm, 1.2/50us, 8/20us
Mains surge immunity (comm. mode)	2	kV	Acc. IEC61000-4-5. 12 Ohm, 1.2/50us, 8/20us

## Application Info

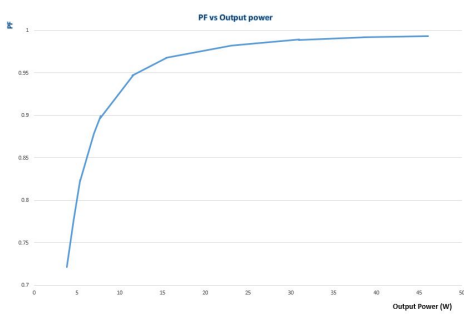
Specification item	Value
Approval marks	CCC / CE / ENEC / RCM
Ingress Protection classification (IP)	20
Noise and hum dB(A)	20

## Graphs

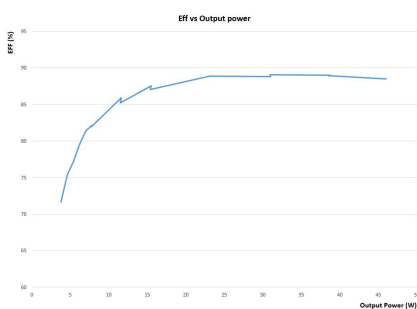
### Operating window



### Power factor versus output power

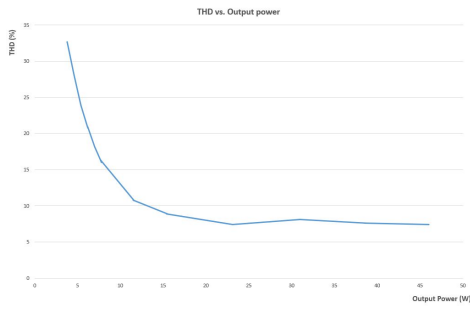


### Efficiency versus output power



## THD versus output power

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## Notes

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For more information about the MasterConnect app see the End User Manual.



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Date of release: July 13, 2020 v1

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